CLAIM OR CLAIMS

WHAT IS CLAIMED IS:

1. A method of detecting a frequency correction burst signal in a received signal comprising the steps of:

delaying the received signal by a period that is an integer multiple of one cycle of rotation of the frequency correction burst signal to produce a reference signal; and

correlating the received signal with a conjugate version of the reference signal to produce a correlation result that is insensitive to a frequency offset in a nominal carrier frequency of the received signal, the correlation result being indicative of a location of the frequency correction burst signal within the received signal.

2. The method as recited in claim 1 further comprising the step of estimating the frequency offset as a function of the correlation result.

3. The method as recited in claim 1 wherein the correlating step uses only real components of the received signal for improved computational efficiency where the frequency offset is expected to be within an acceptable range around nominal.

4. The method as recited in claim 3 further comprising the steps of:

determining quadrature components of the received signal at the

location of the frequency correction burst signal to determine in conjunction with the real components a phase angle; and

estimating the frequency offset as a function of the phase angle.

5. The method as recited in claim 1 further comprising the step of down-converting the received signal to a baseband complex discrete-time sample signal for input to the delaying and correlating steps as the received signal.

6. The method as recited in claim 5 wherein the down-converting step comprises the steps of:

mixing the received signal with a first local oscillator signal to produce an intermediate frequency signal;

digitizing the intermediate frequency signal to produce a sampled intermediate frequency signal;

mixing the sampled intermediate frequency signal with a second complex local oscillator signal to produce a sample signal with real and quadrature components as the baseband complex discrete-time sample signal.